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ABSTRACT

Australian university students attending a 3-year teacher education program (N=329) responded to self-concept items in four Creative Arts domains: music, visual art, dance, and drama. Their responses were then related to their attitudes toward teaching these subjects. Confirmatory factor analysis (CFA) showed that self-concept in each domain was distinct, providing support for the multidimensionality and domain-specificity of artistic self-concept. Hierarchical CFA also showed that self-concepts in the four artistic domains could be represented by a higher order self-concept factor, providing support for the hierarchical structure of artistic self-concept. When domain-specific self-concepts were related to students' attitudes toward teaching the respective subject areas, paths from self-concept to attitude in corresponding domains were substantial and positive, while paths to nonmatching domains were small, or even negative. Even though potential teachers' artistic self-concept was both hierarchical and multidimensional, development of their domain-specific self-concepts may be more fruitful for enhancing teaching in specific art subjects. (Contains 3 tables and 45 references.) (Author/SLD)

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Potential Teachers' Hierarchical, Multidimensional Artistic Self-Concept

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Paper presented at the International Conference on Teacher Education at the Hong Kong Institute of Education, Hong Kong, 22-24 February 1999.

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Practitioners and researchers interested in self-concept research may also visit the home page of the SELF (Self-concept Enhancement and Learning Facilitation) Centre at

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Abstract

Australian university students attending a 3-year teacher education program (N = 329) responded to self-concept items in 4 Creative Arts domains: music, visual art, dance and drama; and their attitudes towards teaching these subjects. Confirmatory factor analysis (CFA) showed that self-concept in each domain was distinct, providing support for the multidimensionality and domain-specificity of artistic self-concept. Hierarchical CFA also showed that self-concepts in the 4 artistic domains could be represented by a higher order self-concept factor, providing support for the hierarchical structure of artistic self-concept. When relating domain-specific self-concepts to their attitudes towards teaching the respective subject areas, paths from self-concept to attitude in corresponding domains were substantial and positive whereas paths to nonmatching domains were small, or even negative. Even though potential teachers' artistic self-concept was both hierarchical and multidimensional, development of their domain-specific self-concepts may be more fruitful for enhancing teaching in specific art subjects.

Since Shavelson, Hubner, and Stanton (1976) proposed a multidimensional, hierarchical model of self-concept, researchers have attempted to investigate both the multidimensional and hierarchical nature of self-concept. Recent research has supported the multidimensionality of self-concepts in various areas (e.g., Byrne & Gavin, 1996; Marsh, Hey, Johnson, & Perry, 1997; Marsh & Yeung, 1997a, in press-a; Vispoel, 1993, 1995), but the hierarchy of academic self-concept has been found to be weak. Findings have shown that a global measure of academic self-concept may not be able to capture the characteristics of various curriculum areas so as to be representative of the diversity of self-concepts in the school. Based on these findings, researchers have queried the usefulness of a global measure in reflecting self-concepts in a range of academic areas (e.g., Marsh, 1987; Marsh, Byrne, & Shavelson, 1988). However, Lau,

Yeung, Jin, and Low (in press) have demonstrated that self-concepts in a specific subject domain such as English can be both multidimensional and hierarchical. Yeung, Chui, and Lau (in press) have also suggested that self-concepts in a school setting where there is a distinct focus can also be both multidimensional and hierarchical. The present study extends these findings in a tertiary education studies setting where Creative Arts forms a key focus in an undergraduate teacher education program. For the promotion of teaching effectiveness and teacher commitment in the Creative Arts areas, a thorough understanding of potential teachers' self-concepts and their relations to their attitudes towards Creative Arts is essential.

Multidimensional Academic Self-Concept

Self-concept has been recognized as both an important educational outcome and an important factor that contributes to other desired educational outcomes (Marsh, 1993a). Recent research has shown close relations between academic self-concept and academic achievement (e.g., Chapman & Tunmer, 1997; Hay, 1997; Helmke & Aken, 1995; Marsh & Yeung, 1997a; Muijs, 1997; Yeung & Lee, in press). In extending studies on expectancy-value models of achievement motivation (e.g., Eccles & Wigfield, 1995; Wigfield & Eccles, 1992), Marsh and Yeung (1997b; also see Yeung, Chui, & Lau, in press) found significant effects of academic self-concept on high school students' choice of coursework. More importantly, the relations between academic self-concept and academic behavior have been found to be domain specific (e.g., Marsh & Yeung, 1997a). Thus, for example, students clearly distinguished between self-concepts in math and in English, and these self-concepts influenced academic performance and behavior only in their respective curriculum domains.

Because of recent findings showing that even though the correlation between verbal and math achievement scores is typically high, the correlation between students' self-concepts in verbal and math areas is typically near-zero (e.g., Marsh, 1987; Marsh, Byrne, & Shavelson, 1988) or even negative (Yeung & Lee, in press), it is unlikely for a hierarchical representation of

verbal and math self-conepts by a global academic self-concept construct (Marsh, 1986; Marsh & Shavelson, 1985; also see Skaalvik & Rankin, 1995). Thus recent research in academic self-concept has emphasized the multidimensional rather than the hierarchical nature of the self-concept structure (e.g., Byrne & Gavin, 1996; Cross & Markus, 1994; Harter, 1996; Hattie, 1992; Marsh, 1993a; Marsh, Byrne, & Shavelson, 1988).

The Hierarchy of Academic Self-Concept

In fact, recent research has generated more queries than evidence for the hierarchical structure of academic self-concept. For example, Marsh and Yeung (1998) tested the causal flow between global and domain-specific self-concepts in two longitudinal studies. In both academic and physical areas, they found little support for a top-down or a bottom-up causal flow from either global self-concept to subsequent specific self-concept or from specific to subsequent global self-concept. In the high school where the curriculum areas are so diverse, it may be difficult for a global academic self-concept to capture the characteristics of all the school subjects so as to be representative of the wide range of self-concepts in different subject domains. Likewise, a global physical self-concept may not be able to represent a diverse range of self-concepts in physical performance, skill and fitness.

However, for elite athletes whose success in sports may require a combination of high level physical performance, skill and fitness, a global representation of physical self-concepts could be much more meaningful. Marsh, Hey, Johnson, and Perry (1997) tested elite athletes from a sports high school and from the Australian representative teams. Applying hierarchical confirmatory factor analysis (CFA), they found that a higher order factor was able to represent six specific physical self-concepts (Skills, Body, Aerobic, Anerobic, Mental, and Performance). Thus the structure of physical self-concepts can be both hierarchical and multidimensional in elite athletes. To the elite athletes, all the six components were probably salient for the formation of their physical self-concept.

Also in the areas of sport psychology and physical self-concept, consistent with a hierarchical model, Fox suggested that self-perceptions can vary from the superordinate (global self-esteem), domain (physical), subdomain (sports competence), facet (soccer ability), subfacet (shooting ability), and state (I can score this penalty). Fox (1990) implied that specific self-concepts at lower levels of the hierarchy tend to influence more global perceptions. The proposed hierarchical structure was supported using partial correlation techniques demonstrating, for example, that global self-concept was more strongly related to the global physical scale than to the more specific physical scales. However, Fox's hypothesis was not thoroughly tested at the subdomain and facet levels which are the focus of our present study.

Another study that demonstrated a hierarchy within a specific curriculum area is Vispoel's (1995) study on artistic self-concept. Although Vispoel found only partial support for a higher order academic self-concept factor to explain the relations of all the domain-specific self-concepts considered in the study, his results showed a hierarchical representation within each subject domain. Thus although the self-concept hierarchy may not be as strong near the apex of the Shavelson et al. model, stronger hierarchical relations may be expected at the more domain-specific levels.

In testing the hierarchical relations of self-concepts within a specific subject domain, Lau et al. (in press) tested the ability of a higher order English self-concept to represent self-concepts in listening, speaking, reading and writing English. They found support for the hierarchical relations and also demonstrated the equivalence of the higher order factor to an independently measured global English self-concept factor. Furthermore, instead of examining the self-concept structure of a specific subject domain, Yeung, Chui, and Lau (in press) examined the self-concepts of students in a school of commerce and found that academic self-concepts within the school with a strong focus on commercial studies tended to be both hierarchical and multidimensional.

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Today when most researchers are focusing on the multidimensionality of self-concept, the hierarchy of self-concept has almost been neglected. Hattie and Marsh (1996) have commented that the hierarchical aspect of self-concept should be an important direction for further research. Even though the hierarchy of academic self-concept in the high school may be weak, in a specific curriculum domain where the components are focused--such as Creative Arts considered here--it may be reasonable to expect much stronger hierarchical and multidimensional relations of self-concepts. The present study examines the hierarchical and multidimensional nature of self-concept in the Creative Arts subdomains in an undergraduate program for potential teachers.

Method

Participants

Of 329 potential teachers enrolled in a teacher education program in a university in Sydney, Australia, 298 completed surveys were analyzed (32 males and 266 females). Creative Arts is one of the key learning areas in the schools of the state and comprise a crucial component in the teacher education program. Consent to participate in the study was obtained from the participants before they completed the survey.

Material

For all the response items described below, the potential teachers responded to each item on a 5-point scale (1 = strongly disagree; 5 = strongly agree).

Domain-specific Creative Arts self-concepts. Six items strictly parallel for each of four domains of Creative Arts: music, visual art, dance and drama were used: "I have had a good background in (subdomain)", "I feel inadequate when I attend (subdomain)", "I would like to be (a musician/an artist/a dancer/an actor)", "I am not particularly interested in (subdomain)", "I consider myself to be (a musician/an artist/a dancer/an actor)", and "If I worked hard, I could be good at (subdomain)".

Skill-specific Creative Arts self-concepts. The two items strictly parallel for each of 21 skills in the four Creative Arts subdomains were: "I enjoy the following aspects of music tutorial: (skill)" and "I am confident in teaching activities based on the following (subject) activities: (skill)". For example, the questions about singing in the Music subdomain were: " I enjoy the following aspects of music tutorial: Singing" and "I am confident in teaching activities based on the following music activities: Singing". The 21 skills were: singing, moving, listening to music, playing instruments, and creating musical pieces in Music (αs = .78, .81, .80, .74, .81), drawing, painting, creating collages, creating 3-D artworks, printmaking in Visual Art (αs = .77, .72, .73, .77, .72); folkdancing, modern dancing, teacher-directed dances, improvized dances, and performing dances in the Dance domain (αs = .75, .77, .72, .77, .79), and improvization, miming, story telling, readers' theatre, role playing, and masks and puppets in Drama (αs = .81, .82, .76, .78, .82, .76).

Attitude towards subject subdomain. The two questions that were parallel across the four Creative Arts subdomains were: "If I were in a team teaching situation, I would prefer to do the (subdomain) segment" and "I feel positive about teaching (subdomain) lessons".

Statistical Analyses

The items were coded such that higher scores reflected more favorable self-concepts and attitudes. In preliminary analyses we examined the internal consistency of the domain-specific self-concept measures. Applying confirmatory factor analysis (CFA), we first examined the multidimensionality of the self-concept responses that has been widely supported in previous research. The conduct of CFA has been described elsewhere (e.g., Bollen, 1989; Byrne, 1989, 1998; Joreskog & Sorborm, 1993; Marsh, 1992; Marsh & Hocevar, 1985; Pedhazur & Schmelkin, 1991) and is not further detailed here. All analyses throughout this paper were conducted with the SPSS version of PRELIS and LISREL (Joreskog & Sorbom, 1988). The goodness of fit of models is evaluated based on suggestions of Marsh, Balla, and McDonald

(1988) and Marsh, Balla, and Hau (1996) with an emphasis on the Tucker-Lewis index (TLI), but we present also the chi-square test statistic and the relative noncentrality index (RNI). For acceptable model fit (TLI > .9), for parallel items (with similar wording) correlated uniqueness were included in the models.

To reduce the number of variables to a manageable amount in the analysis, we used three item parcels instead of six items for each of the four domain-specific self-concept constructs. The first two items were averaged to form the first item parcel, the next two were averaged to form the second item parcel, and the last two were averaged to form the third item parcel. We hypothesized that there is a hierarchical relation among the domain-specific self-concepts so that they can be represented by a higher order factor, that there is a hierarchical relation between the skill-specific and the subdomain self-concepts, that the hierarchical relations are strong enough to be represented by a third order factor, and that relations between self-concept and attitudes towards subdomain areas are subdomain-specific. Specifically, we tested the following models:

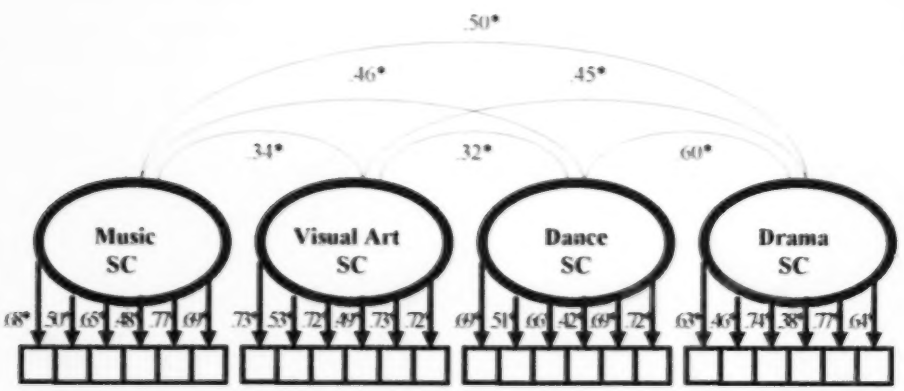

Figure 1. Model 1b was a measurement model with 24 observed variables in 4 subdomain self-concepts. Based on validation of this measurement model, subsequent models used item parcels for these variables.

Model 1. This was a measurement model with 24 observed variables for 4 subdomain self-concept measures (Figure 1). The CFA model was based on the 24 x 24 covariance matrix with a sample of 284 after listwise deletion of missing data. The validation of this measurement model was important for subsequent analyses.

Model 2. Models in subsequent analyses used item parcels based on the validation of Model 1. The 42 skill-specific items, 12 subdomain item parcels, and 8 attitude items formed a 62 x 62 covariance matrix for Models 2 to 4. After listwise deletion of missing data, the sample was further reduced to 249. Using only the item pairs for the four subdomain self-concept scales, Model 2 tested the ability of a higher order Creative Arts self-concept to represent the subdomain self-concepts (Figure 2).

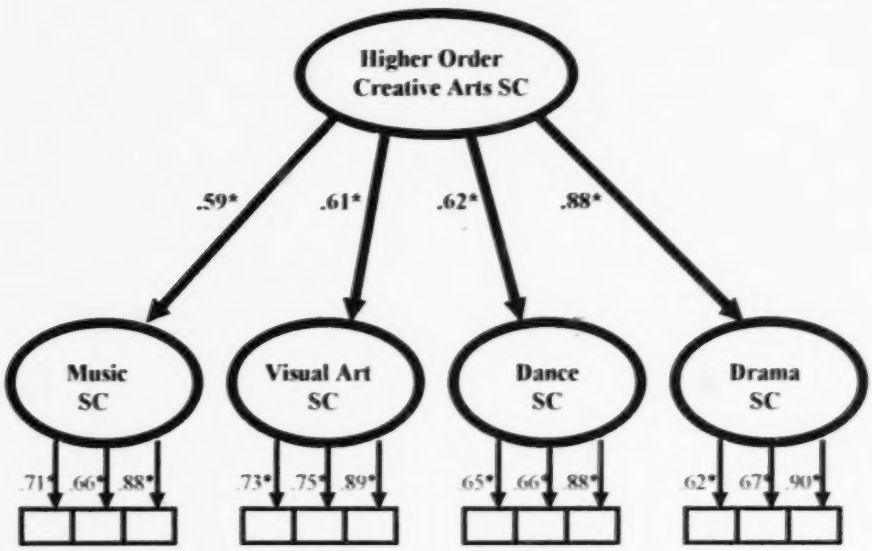

Figure 2. Model 2 tested the ability of the subdomain self-concepts (SC) to form a higher order construct.

Model 3. Model 3b tested the multidimensionality of four a priori constructs derived from 42 skill-specific items. Model 3c examined the hierarchical relations of these constructs by tested the ability of the 21 skill-specific factors to form 4 second order factors reflecting the four a priori subdomains and also a third order factor (Figure 3). Because each construct had only two indicators, for model identification, the factor loadings for the second indicators for each construct in each of the four a priori subdomains (Music, Visual art, Dance, Drama) were constrained to be equal (Byrne, 1998). The same strategy was used for all models where constructs were inferred from only two indicators.

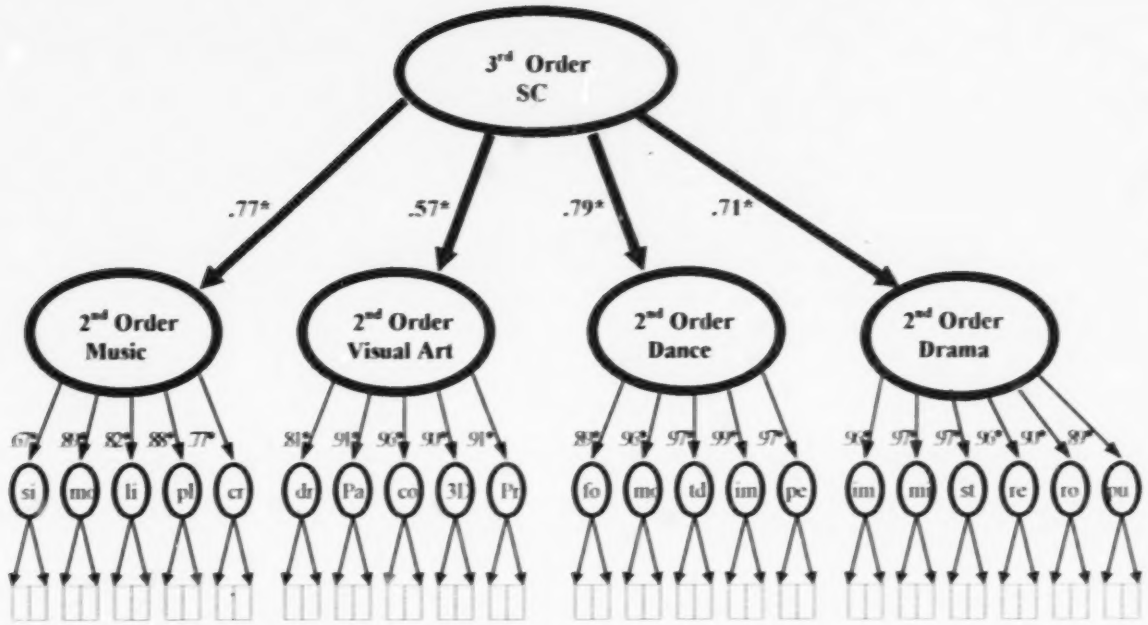

Figure 3. Model 3c tested the ability of 21 skill-specific factors to form 4 second order factors and a third order factor.

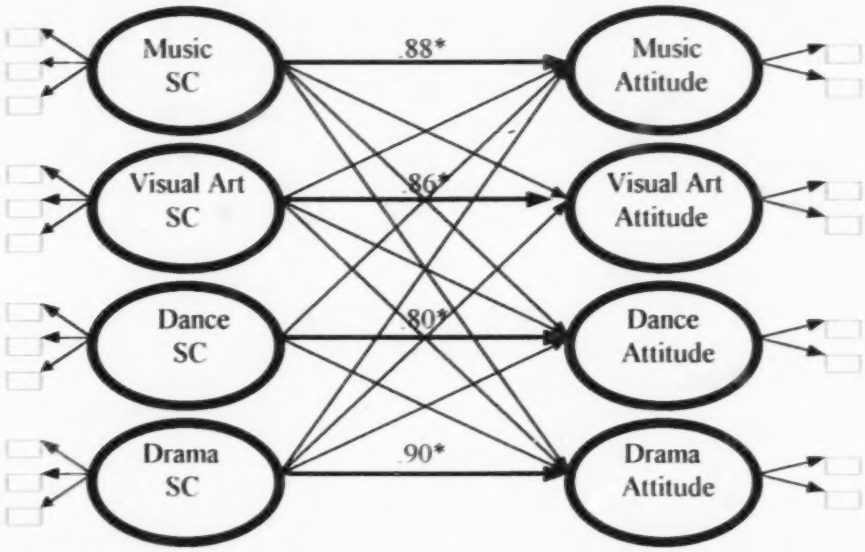

Figure 4. Model 4b tested the domain-specificity of paths leading from subdomain self-concepts to attitudes in respective subject areas.

Model 4. This model provided a further test for the multidimensionality of the subdomain constructs by positing paths from the four subdomain self-concepts to attitudes in four subject

areas. Support for multidimensionality requires path coefficients to be positive in matching subdomains and much weaker coefficients in nonmatching subdomains (Figure 4).

Results

Preliminary Analysis

Reliability estimates were good for the subdomain Creative Arts self-concept scales (αs = .78, .81, .76, .75) and for the attitude scales (αs = .80, .73, .85, .69), respectively for Music, Visual art, Dance, and Drama). In the CFA models, because parallel items were used across the four subject areas, the inclusion of correlated uniquenesses for identical items was necessary for model fit (Joreskog, 1979; Marsh, 1993b). Thus all the models presented throughout this paper had correlated uniquenesses included. For example, a total of 36 correlated uniquenesses were included in Model 1, 18 in Model 2, 90 in Model 3, 108 in Models 4 and 5, and 30 in Model 6. A summary of the goodness of fit of models is presented in Table 1 in which all solutions are proper and provide reasonable fit to the data (TLI > .9).

Model 1: Multidimensional Creative Arts Self-concepts

Model 1b (Table 1) examined the construct validity of the four subdomain self-concepts. The items loaded reasonably well on the four a prior constructs (see Figure 1a), factor loadings ranging from .38 to .77 (Mdn = .68). Correlations between factors were moderate, ranging from .32 to .60 (Mdn = .46). These results support the multidimensional nature of the four subdomain Creative Arts constructs.

Model 2: Higher Order Self-concept Representing Domain-specific Constructs

Based on the validation of the four subdomain self-concepts in Model 1, Model 2 examined if a higher order factor would be able to account for the correlations among the first-order subdomain Creative Arts self-concepts (Figure 1b). Model 2b provided a good fit to the data (Table 1) and the factor loadings for the higher order factor (path coefficients presented in Table 2) were substantial and statistically significant (.59, .61, .62, and .88). These results support the

hierarchical relations of the four first-order constructs to a higher order Creative Arts factor. Thus consistent with Vispoel (1995) there is evidence that the relations of artistic self-concepts can be hierarchical.

Model 3: Second and Third Order Factors Representing Skill-specific Factors

Model 3b (Table 1) tested the multidimensionality of 21 a priori skill-specific factors inferred from 42 items; and Model 3c tested the ability of four second order factors to account for the correlations of respective skill-specific factors in the four subject areas. To summarize, the factor loadings for the first-order factors were substantial and statistically significant. The correlations among the 21 skill-specific factors were mostly moderate, and were higher in Dance and Drama areas than in Music and Visual arts areas. Thus, the potential teachers discriminated among the 21 specific skills reasonably well, although the differentiation among the skills seemed to be better in music and visual arts. For the four second order factors, the factor loadings were also substantial, showing that the 21 skill-specific factors could be represented by four second order factors reflecting the four Creative Arts areas. Finally, the factor loadings for the third order factor were also substantial and statistically significant, showing that the four second order factors could be further represented by a third order factor. The results of Model 3 support both the hierarchical and multidimensional nature of Creative Arts self-concept based on skill-specific items.

Model 4: Relations Between Domain-specific Self-concepts and Attitudes

Based on previous research, we hypothesized that the relations between self-concept and attitude should be domain specific (Figure 4). The solution of Model 4 is presented in Table 3. An inspection of the correlations between self-concepts and attitude found that the correlations were high in matching subject domains (.74, .69, .71, and .67, respectively for Music, Visual art, Dance, and Drama) than in nonmatching domains. This provided evidence for the construct validity of the subdomain self-concept measures and also their multidimensionality. As expected,

the paths leading from self-concept to attitude were significantly positive in matching subdomains (.88, .86, .80, and .90, respectively) but were nonpositive for nonmatching subdomains. These results provide further support for the multidimensionality of the self-concept constructs, and also indicate the importance of domain-specificity when considering the relations between self-concepts and attitudes in Creative Arts.

Discussion

Consistent with previous research, the present study found support for the multidimensional nature of self-concepts in four Creative Arts subdomains. Not only were the subdomain self-concepts in music, visual arts, dance and drama found to be multifaceted in nature, but the self-concepts in various skills related to these domains were also multifaceted. The potential teachers distinguished reasonably well the multiple skills such as singing and playing instruments in music, drawing and painting in visual art, folk dance and modern dance in the dance domain, and improvization and role play in drama. The CFA models found 21 skill-specific factors represented by four distinct domain-specific factors. Also, the inter-correlations of the four factors were strong enough to be accounted for by a single higher order factor. These results support the hypothesis that self-concepts within a specific curriculum focus can be both hierarchical and multidimensional.

The findings in the present study are consistent with the Marsh, Hey, Johnson, and Perry (1997) study with elite athletes and the Lau et al. (in press) study investigating self-concepts in four skill areas within the English domain. Like these studies, the present findings suggest that a clear hierarchical nature can be substantiated at the lower levels of the academic self-concept structure within a specific curriculum area in which the factors considered are less diverse and more domain-relevant. It may be that the higher order factor tends to be stronger and more stable in accounting for the subdomain first-order factors, whereas the strength of the hierarchy might be less stable and less representative as it moves up the hierarchy when a more diverse

array of unrelated academic self-concepts are placed under a single higher order factor (e.g., global academic self-concept). This interpretation is consistent with the literature showing that the self-perceptions at the higher end of the apex (e.g., general self-concept) tend to be less stable and more susceptible to situational and environmental changes (e.g., Marsh, 1993a, Marsh & Yeung, in press-b; Nurius & Markus, 1990, Shaveslon & Bolus, 1982).

The results also provided support for Fox's (1990) proposal of relations between domain and subdomain self-concepts. The ability of higher order self-concepts at a subdomain level (music, visual art, dance and drama) to represent skill-specific self-concepts at a facet level (singing, drawing, folk dance and role play) as well as a third order factor at the global domain level (Creative Arts) to represent the subdomain self-concepts supported Fox's suggestion of a hierarchical self-concept structure.

From a practical perspective, however, the strong support for a hierarchical Creative Arts self-concept does not undermine the importance of the multidimensionality of the Creative Arts self-concept structure. In particular, Model 4 showed that self-concept in each subdomain had positive effects on attitude towards the corresponding subject subdomain. Thus attempts to enhance the potential teachers' global Creative Arts self-concept are unlikely to influence attitude as effectively as the enhancement of self-concept in each specific area. It is also important to note that enhancement of subdomain self-concept has to be implemented together with enhancement of specific subdomain skills (Calsyn & Kenny, 1977) because the lack of either the appropriate skills or the self-concept required for further pursuit of the skills would undermine the long-term effects of both.

Although previous research mostly found the hierarchical structure of academic self-concept to be rather weak, for academic self-concept to be really useful, it has to be hierarchical because any reliable measure of self-concept is necessarily derived from measures at a lower level, and is therefore necessarily a global measure of some kind. The fact that a global measure of academic

self-concept has been found to be unable to represent verbal and math self-concepts in the high school setting should warrant vigorous investigation, but a conclusion refuting the usefulness of a global academic self-concept measure should not be drawn too soon.

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Table 1. Goodness of Fit Summary for Models

Model	χ^2	df	RNI	TLI
1a. 24 subdomain (DOM) items, Null	4128.00	276		
b. 4 DOM factors	382.81	210	.955	.941
2a. 12 DOM items, Null	1853.25	66		
b. Higher-order (HO) factor	46.78	32	.992	.983
3a. 42 skill (SKI) items, Null	12182.89	861		
b. 21 SKI factors	873.24	536	.970	.952
c. 4 2nd order & 1 3rd order factor	1390.40	721	.941	.929
4a. 12 DOM + 8 attitude items, Null	3366.40	190		
b. DOM to attitude paths	247.76	115	.958	.931

Note: N for Model 1 = 284, and for Models 2 to 6 = 249. Model 1: The four subdomain factors were Music, Visual, Dance, and Music inferred from 6 items each. Model 2: 12 item parcels formed 4 Creative Arts self-concepts represented by 1 higher order factor. Model 3: 42 skill-specific items formed 21 skill-specific factors represented by 4 second order factors which were in turn represented by 1 third order Creative Arts factor. Model 4: relation of self-concepts to attitudes in 4 subdomains. RNI= Relative noncentrality index. TLI= Tucker-Lewis index.

Table 2. CFA Solutions for Model 2b: 4 Subdomain Factors to Form 1 Higher Order Factor

	MUSSELF		VISSELF		DANSELF		DRASELF		HOART
Variable	**FL**	**Uniq**	**FL**	**Uniq**	**FL**	**Uniq**	**FL**	**Uniq**	
PARCEL1	.71*	.50*	.73*	.47*	.65*	.58*	.62*	.61*	
PARCEL2	.66*	.56*	.75*	.44*	.66*	.56*	.67*	.56*	
PARCEL3	.88*	.22*	.89*	.21*	.88*	.23*	.90*	.19*	
Path Coefficient (from row to column variable)									
HOART	.59*		.61*		.62*		.88*		
Factor Correlations									
MUSSELF	--								
VISSELF	.36*		--						
DANSELF	.37*		.38*		--				
DRASELF	.52*		.54*		.55*		--		
HOART	.59*		.61*		.62*		.88*		--
Residual	.65*		.63*		.61*		.23*		1

Note: N = 249. The 4 first-order subdomain factors were Music (MUSSELF), Visual art (VISSELF), Dance (DANSELF), and Drama (DRASELF) each inferred from 3 item parcels (PARCEL1 TO PARCEL3). These factors formed a higher order Creative Arts factor (HOART). FL = factor loading. Uniq = uniqueness. Parameters estimates are completely standardized. *p < .05

Table 3. CFA Solutions for Model 4b: Paths From Self-concepts To Attitudes in 4 Subdomains

	MUSSELF	VISSELF	DANSELF	DRASELF	MUSPREF	VISPREF	DANPREF	DRAPREF
Variable	**Factor Loadings**							
Item1	.81*	.76*	.72*	.71*	.89*	.81*	.98*	.80*
Item2	.64*	.74*	.63*	.65*	.69*	.66*	.75*	.65*
Item3	.79*	.86*	.82*	.81*	--	--	--	--
Uniquenesses								
Item1	.34*	.42*	.48*	.49*	.21*	.34*	.04	.36*
Item2	.58*	.46*	.60*	.57*	.52*	.57*	.44*	.58*
Item3	.38*	.26*	.32*	.34*	--	--	--	--
Path Coefficients (From column to row variables)								
MUSPREF	.88*	-.05	-.00	-.24*				
VISPREF	-.13	.86*	.09	-.29*				
DANPREF	-.07	-.12	.80*	-.04				
DRAPREF	-.18*	-.21*	-.07	.90*				
Factor Correlations								
MUSSELF	--							
VISSELF	.35*	--						
DANSELF	.43*	.30*	--					
DRASELF	.48*	.53*	.53*	--				
MUSPREF	.74*	.13	.23*	.15	--			
VISPREF	.07	.69*	.13	.15*	.14	--		
DANPREF	.21*	.08	.71*	.29*	.33*	.17*	--	
DRAPREF	.15	.18*	.27*	.67*	.21*	.22*	.39*	--
Residual	1	1	1	1	.39*	.45*	.46*	.48*

Note: N = 249. The subdomain factors were Music (MUSSELF), Visual art (VISSELF), Dance (DANSELF), and Drama (DRASELF) each inferred from 3 item parcels (labeled as items 1 to 3). These self-concept factors were related to four Attitude measures in the respective subject areas (MUSPREF, VISPREF, DANPREF, DRAPREF). Parameters estimates are completely standardized. *p < .05

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